

Appl. No. 10/724,863
Response Dated May 15, 2006
Reply to Office Action of February 15, 2006

REMARKS

Claims 11-15 and 17-21 stand in this application. Claims 11, 12, 14, 17, 18, and 20 have been amended. Claims 16 and 22 have been canceled. Claims 1-10 have been withdrawn. Paragraphs 16, 17, 27, 28, 29, and 55 are amended. New Figures 11 and 12 are added. No new matter has been added. Favorable reconsideration and allowance of the standing claims are respectfully requested.

At page 2, paragraph 3 of the Office Action, the drawings are objected to under 37 CFR 1.83(a). Applicant respectfully traverses the objection. Applicant submits herewith new figures 10 and 11 to as New Sheets to support the features in the claims. Applicant respectfully submits that support for new figures 10 and 11 may be found throughout the specification in general. As an example, support for new figures 10 and 11 may be found at least in original paragraphs 16, 17, 27, 28, and 29. Paragraphs 16, 17, 27, 28, and 29 have been amended to reflect the addition of new figures 10 and 11. No new matter has been added. In view of the newly submitted figures 10 and 11 and the amendments to the specification, Applicant respectfully requests withdrawal of the objection to the drawings.

Original paragraph 55 is amended to include information originally shown in figures 7 and 8 that was inadvertently omitted from the specification. No new matter has been added.

At pages 3-4, paragraph 4 of the Office Action, claims 14 and 20 are objected to for minor informalities. Applicant traverses the objection. Applicant has amended

Appl. No. 10/724,863
Response Dated May 15, 2006
Reply to Office Action of February 15, 2006

claims 14 and 20 to address the informalities raised in the Office Action. Therefore, Applicant respectfully requests withdrawal of the objection to claims 14 and 20.

At page 5, paragraph 8 claims 11-13 and 17-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Akkary et al. US Patent No. 6,591,342 (Akkary) in view of Martinez et al., "Cherry: Checkpoint Early Resource Recycling in Out-of-order Microprocessors" (Martinez). At page 7, paragraph 12 of the Office Action, claims 14 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Akkary in view of Martinez and further in view of Jourdan et al., US Patent Application Publication No. 2003/0217251 (Jourdan). At page 8, paragraph 14 of the Office Action, claims 15 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Akkary in view of Martinez and further in view of Maier et al., US Patent Application Publication No. 2004/0044881 (Maier). At page 10, paragraph 16 of the Office Action, claims 16 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Akkary in view of Martinez and further in view of Gopal et al., "Speculative Versioning Cache" (Gopal). Applicant respectfully traverses each of the above rejection, and requests reconsideration and withdrawal of the obviousness rejection.

Applicant has cancelled claims 16 and 22 and has incorporated their subject matter into respective amended claims 11 and 17. Therefore, the obviousness rejection with respect to claims 16 and 22 will be addressed below with respect to respective amended claims 11 and 17.

The Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness. According to MPEP § 2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation,

Appl. No. 10/724,863
Response Dated May 15, 2006
Reply to Office Action of February 15, 2006

either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

As recited above, to form a *prima facie* case of obviousness under 35 U.S.C § 103(a) the cited references, when combined, must teach or suggest every element of the claim. See MPEP § 2143.03, for example. Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness because the cited references, taken alone or in combination, fail to teach or suggest every element recited in claims 11 and 17, as amended. Therefore claims 11 and 17, and all respective claims depending therefrom, define over Akkary in view of Martinez and further in view of Gopal, whether taken alone or in combination. For example, claims 11 and 17 recite the following language, in relevant part:

a circuit comprising a speculative data cache to receive and store non-retired stores from said queue, wherein said speculative data cache includes at least one storage block to be associated with a checkpoint in a program.

As correctly noted in the Office Action, neither Akkary nor Martinez disclose a speculative data cache. According to the Office Action, the missing language is disclosed by Gopal (fig. 5, p. 5, section 3.2). Applicant respectfully disagrees. Although

Appl. No. 10/724,863
Response Dated May 15, 2006
Reply to Office Action of February 15, 2006

Gopal describes a speculative data cache generally, Gopal fails to disclose, teach, or suggest that the speculative cache is to receive and store non-retired stores from a queue, as recited in amended claims 11 and 17. Furthermore, Applicant respectfully submits that Gopal fails to disclose, teach, or suggest that the speculative data cache includes at least one storage block to be associated with a checkpoint in a program.

In addition, Applicant respectfully submits that Akkary and Martinez, taken alone or in combination, also fail to disclose, teach, or suggest a speculative data cache that includes at least one storage block to be associated with a checkpoint in a program, as recited in amended claims 11 and 17. Martinex merely discloses a roll over buffer associated with a checkpoint and does not disclose, teach, or suggest a speculative data cache that includes at least one storage block to be associated with a checkpoint in a program, as recited in amended claims 11 and 17. Akkary discloses a store forwarding buffer (SFB). Applicant respectfully submits, however, that a SFB is not a speculative data cache to receive non-retired stores from the queue, as recited in amended claims 11 and 17.

Therefore, Applicant respectfully submits that Akkary in view of Martinez and further in view of Gopal, whether taken alone or in combination, fail to disclose, teach, or suggest every element recited in claims 11 and 17, as amended. Accordingly, Applicant respectfully requests removal of the obviousness rejection with respect to claims 11 and 17. Furthermore, according to MPEP § 2143.03, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. Accordingly, Applicant respectfully requests removal of the obviousness rejection with respect to claims 12-15 and 18-21, which depend from respective claims 11 and 17.

Appl. No. 10/724,863
Response Dated May 15, 2006
Reply to Office Action of February 15, 2006

Applicant has amended claims 12 and 18 to recite that the queue comprises the features recited therein.

For at least these reasons, claims 11-15 and 17-21 are non-obvious and represent patentable subject matter in view of the cited references, whether taken alone or in combination. Accordingly, removal of the obviousness rejection with respect to claims 11-15 and 17-21 is respectfully requested.

Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above. Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

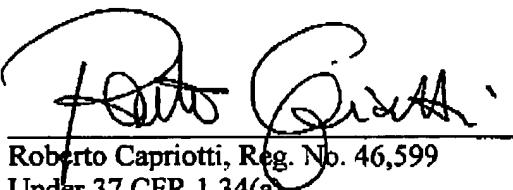
Appl. No. 10/724,863
Response Dated May 15, 2006
Reply to Office Action of February 15, 2006

It is believed that claims 11-15 and 17-21 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present patent application.

Respectfully submitted,

KACVINSKY LLC



Roberto Capriotti, Reg. No. 46,599
Under 37 CFR 1.34(a)

Dated: May 15, 2006

4500 Brooktree Road, Suite 300
Wexford, PA 15090
(724) 933-5529